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| EXAMINER | |
| KAU, STEVEN Y | |
| ART UNIT | PAPER NUMBER |
| 2625 | |

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/05/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/607,761

Applicant(s)

JACOBS ET AL.

Examiner

Steven Kau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/27/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Preliminary Amendment

1. Applicants filed a preliminary amendment on July 18, 2006. According to the preliminary amendment:

1. Abstract has been amended
2. No claims have been amended and claims 1-9 are pending.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on June 27, 2003 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al (Ohta) (US 7,103,221) in view of Riseman et al (Riseman) (US 4,677,571) and Chang et al (Chang) (US2002/0097419 A1)

With regard to claim 1, Ohta discloses an image processing method, in that he teaches a method for implementing a raster image path architecture (e.g.

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a printing system or a block diagram, Figures 1 & 2, col 3, lines 43-47), comprising the steps of: (1) capturing a source image (e.g. scanning an image) so as to provide device-independent grayscale image data (Figure 1, col 4, lines 52-63); (2) generating associated segmentation (e.g. separation, broken down) information useful for optimal rendering of the image data as a binary image (col 6, lines 65-67 & col 7, lines 1-11); (3) storing the device-independent grayscale image data and the associated segmentation information (Figure 1, col 3, lines 9-34 & col 19, lines 1-3); (4) determining (e.g. selecting) a target output device (e.g. a printer) and using the segmentation information to convert the device-independent grayscale image data to a binary raster image optimized for the targeted output device (col 5, lines 10-14); and (5) submitting the binary raster image to the targeted output device (col 5, lines 15-21).

Ohta differs from claim 1, in that he does not teach using the segmentation information to convert the grayscale image to a binary image.

Riseman discloses an electronic publishing, in that he teaches using the segmentation information to convert the grayscale image to a binary image (col 10, lines 34-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohta to include using the segmentation information to convert the grayscale image to a binary image taught by Riseman to provide a high level performance with significant low cost (col 6, lines 38-47).

With regard to claim 2, Ohta discusses that the steps of computing the segmentation information (e.g. separation & discrimination process) at an

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intermediate platform and converting the device-independent grayscale raster image data to a targeted device-dependent binary raster image (Figures 4 & 5, col 6, lines 36-67 & col 7, lines 1-11).

With regard to claim 3, Ohta discusses that generating the device-independent grayscale image data in the form of device-independent N-plane grayscale raster image data col 2, lines 51-57).

With regard to claim 4, Ohta discuss that the step of determining the segmentation information inherent in the device-independent N-plane grayscale raster image data for converting the device-independent N-plane grayscale raster image data into a targeted device-dependent binary raster image (Figures 4 & 5, col 6, lines 36-67 & col 7, lines 1-11).

With regard to claim 5, Ohta discusses that the step of converting of the device-independent grayscale raster image data and associated segmentation information to targeted device-dependent binary raster image data with operation of an intermediate compute platform according to the determination of the targeted output device (col 1, lines 50-60 & col 5, lines 1-15).

With regard to claim 6, Ohta discuss that the targeted output device further comprises a printer (col 5, lines 10-15).

With regard to claim 7, Ohta discusses that a method for implementing a raster image path architecture (e.g. a diagram, Figures 1 & 2, col 3, lines 43-47), comprising the steps of: (1) capturing a source image (e.g. scanning an image) so as to provide device-independent grayscale image data (Figure 1, col 4, lines 52-63); (2) generating associated segmentation information (e.g. separation,

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broken down process) useful for optimal rendering of the device-independent grayscale image data as binary image data (col 6, lines 65-67 & col 7, lines 1-11); (4) determining a target print engine having a print controller (e.g. a printer) and determining (e.g. selecting) whether the print controller can effectively process the device-independent N-plane MRC image data (col 5, lines 10-14); (5) in response to a determination that the print controller is capable of effectively processing the device-independent N-plane MRC image data, submitting the N-plane MRC image data to the print controller (col 5, lines 10-14);

Ohta differs from claim 7, in that he does teach (3) applying the associated segmentation information to create device-independent N-plane MRC image data; and (6) in response to a determination that the print controller is not capable of effectively processing the device-independent N-plane MRC image data, rendering grayscale overlay planes and flattening image layers, thus yielding device-dependent binary raster image data and submitting the device-dependent binary raster image file to the print controller.

Chang discloses an information apparatus for managing outputting of content to an output device, in that he discuss (3) applying the associated segmentation information to create device-independent N-plane MRC image data (Par. 275); and (6) in response to a determination that the print controller is not capable of effectively processing the device-independent N-plane MRC image data, rendering grayscale overlay planes and flattening image layers, thus yielding device-dependent binary raster image data and submitting the device-dependent binary raster image file to the print controller (Par. 213 & Par 275).

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohta to include applying the associated segmentation information to create device-independent N-plane (layers) MRC image data; and in response to a determination that the print controller is not capable of effectively processing the device-independent N-plane MRC image data, rendering grayscale overlay planes and flattening image layers, thus yielding device-dependent binary raster image data and submitting the device-dependent binary raster image file to the print controller taught by Chang because it is more universal acceptable, reduction of computational requirement and cost (Par. 34, 35 & 36).

With regard to claim 8, Ohta differs from claim 8, in that he does not teach that the N-plane MRC image file further comprises a plurality of planes for supporting binary images and a plurality of planes for supporting a grayscale images.

Chang discusses that the N-plane MRC image file further comprises a plurality of planes for supporting binary images and a plurality of planes for supporting a grayscale images (Par. 86).

With regard to claim 9, Ohta differs from claim 9, in that he does not teach the step of storing the device-independent N-plane MRC raster image file.

Chang discusses that the step of storing the device-independent N-plane MRC raster image file (Par. 86).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified Ohta to include the N-plane MRC

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image file further comprises a plurality of planes for supporting binary images and a plurality of planes for supporting a grayscale images, and the step of storing the device-independent N-plane MRC raster image file taught by Chang because it is more universal acceptable, reduction of computational requirement and cost (Par. 34, 35 & 36).

Correspondence Information

5. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement is traversed (37 CFR 1.143).

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven Kau whose telephone number is (571) 270-1120. The examiner can normally be reached on Monday to Friday from 8:30 AM – 8:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Twyler Lamb can be reached on (571) 272-7406. The fax


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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



S. Kau
Division: 2625
March 29, 2007



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SUPERVISORY PATENT EXAMINER